

Commentary on candidate evidence

The candidate evidence has achieved the following marks for each question of this question paper.

Question 1

Candidate 1

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 awarded – working subsequent to the correct answer is not penalised (general marking principle L)

Question 2

Candidate 2

- ◆ Mark 1 awarded
- ◆ Mark 2 not awarded – error in gradient formula
- ◆ Marks 3 and 4 awarded on follow-through

Candidate 3

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 not awarded – error in simplifying the gradient
- ◆ Mark 4 not awarded – not using the midpoint

Question 3

Candidate 4

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 awarded

Candidate 5

- ◆ Mark 1 awarded
- ◆ Mark 2 not awarded – each line of working must be equivalent to the line above within a valid strategy (Note 1)
- ◆ Mark 3 not awarded – a second error is made

Candidate 6

- ◆ Mark 1 awarded
- ◆ Marks 2 and 3 not awarded

Candidate 7

- ◆ Mark 1 not awarded
- ◆ Mark 2 awarded on follow-through – see Candidate B
- ◆ Mark 3 awarded on follow-through

Candidate 8

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 not awarded – numerical errors were common

Question 4

Candidate 9

- ◆ Mark 1 not awarded
- ◆ Mark 2 awarded on follow-through – the repeated error within the question is not penalised (see general marking principle L)

Candidate 10

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 not awarded
- ◆ Mark 4 awarded on follow-through
- ◆ Mark 5 awarded on follow-through – see note 4 for cases where no simplification is required.

Candidate 11

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Marks 3, 4 and 5 awarded – candidates who drew diagrams often performed well in this question.

Candidate 12

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 awarded
- ◆ Mark 4 not awarded – error in simplifying the expression for $\cos q$
- ◆ Mark 5 not awarded – error in processing the expression

Question 5

Candidate 13

- ◆ Marks 1, 2 and 3 awarded – this candidate has used a grid method to aid their factorising

Candidate 14

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 not awarded – no attempt has been made to factorise the non-unitary quadratic expression

Candidate 15

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 not awarded – the working does not follow from the line above

Question 6

Candidate 16

- ◆ Mark 1 not awarded – no attempt to write the expression in integrable form
- ◆ Marks 2, 3 and 4 not awarded – see Note 6

Candidate 17

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 not awarded – error in integrating the second term
- ◆ Mark 4 awarded on follow-through

Question 7

Candidate 18

- ◆ Mark 1 awarded – see Candidate A
- ◆ Mark 2 not awarded – many candidates did not attempt to evaluate the expression

Candidate 19

- ◆ Mark 1 awarded
- ◆ Mark 2 not awarded
- ◆ Mark 3 not awarded

Candidate 20

- ◆ Marks 1 and 2 awarded – working subsequent to the correct answer is not penalised (general marking principle L)
- ◆ Mark 3 awarded

Question 8

Candidate 21

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 awarded
- ◆ Mark 4 not awarded
- ◆ Mark 5 not awarded – although a missing x in the nature table is not penalised, incorrect information in the nature table is.
- ◆ Mark 6 awarded on follow-through

Candidate 22

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 awarded
- ◆ Mark 4 not awarded
- ◆ Mark 5 awarded
- ◆ Mark 6 awarded

Question 9

Candidate 23

- ◆ Mark 1 not awarded – this graph is outwith the tolerance applied to “concave up in the first quadrant” (see Note 1)
- ◆ Mark 2 awarded
- ◆ Mark 3 not awarded – see Note 3

Candidate 24

- ◆ Mark 1 awarded
- ◆ Mark 2 awarded
- ◆ Mark 3 not awarded – this graph is outwith the tolerance applied to drawing the asymptote at $y = -1$

Question 10

Candidate 25

- ◆ Marks 1 and 2 awarded
- ◆ Marks 3, 4 and 5 awarded
- ◆ Mark 6 and 7 not awarded – no justification of the lack of solutions

Candidate 26

- ◆ Marks 1 and 2 awarded
- ◆ Marks 3, 4 and 5 awarded
- ◆ Mark 6 and 7 not awarded – “fudging” an answer was common

Candidate 27

- ◆ Marks 1 and 2 awarded
- ◆ Mark 3 awarded – see Candidate G
- ◆ Marks 4, 5, 6 and 7 not awarded

Question 11

Candidate 28

- ◆ Marks 1, 2 and 3 not awarded – see Note 1

Candidate 29

- ◆ Mark 1 not awarded
- ◆ Mark 2 not awarded – see Candidate F
- ◆ Mark 3 awarded on follow-through – for evaluating the exact values

Candidate 30

- ◆ Marks 1 and 2 awarded
- ◆ Mark 3 not awarded – many candidates did not use the exact values
- ◆ Mark 4 awarded

Candidate 31

- ◆ Marks 1, 2 and 3 awarded
- ◆ Mark 4 not awarded

Candidate 32

- ◆ Mark 1 not awarded
- ◆ Mark 2 not awarded – see Candidate B
- ◆ Mark 3 awarded on follow-through – for evaluating exact values

Question 12

Candidate 33

- ◆ Mark 1 not awarded – see Candidate F
- ◆ Mark 2 awarded on follow-through
- ◆ Mark 3 not awarded

Candidate 34

- ◆ Mark 1 not awarded – this was a common error
- ◆ Marks 2 and 3 awarded on follow-through

Question 13

Candidate 35

- ◆ Mark 1 not awarded

Candidate 36

- ◆ Mark 1 not awarded
- ◆ Marks 2 and 3 not awarded
- ◆ Mark 4 awarded
- ◆ Marks 5, 6 and 7 not awarded

Candidate 37

- ◆ Mark 1 awarded
- ◆ Marks 2 and 3 awarded
- ◆ Mark 4 awarded
- ◆ Marks 5, 6 and 7 not awarded

Candidate 38

- ◆ Mark 1 not awarded
- ◆ Marks 2 and 3 not awarded – see Candidate B for an example of two attempts
- ◆ Mark 4 awarded
- ◆ Marks 5, 6 and 7 awarded